

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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In the Matter of

Amendment of Parts 1, 2, 21, and 25 )  
of the Commission's Rules to Redesignate )  
the 27.5 - 29.5 GHz Frequency Band, to )  
Reallocate the 29.5 - 30.0 GHz Frequency )  
Band, to Establish Rules and Policies for )  
Local Multipoint Distribution Service and )  
for Fixed Satellite Services )

and )

Suite 12 Group Petition for Pioneer's )  
Preference )

CC Docket No. 92-297

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WASHINGTON, D.C. 20554

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**COMMENTS OF  
GHz EQUIPMENT COMPANY, INC.**

GHz Equipment Company, Inc. ("GEC") hereby submits these comments in response to the Third Notice of Proposed Rulemaking and Supplemental Tentative Decision in the captioned proceeding, released July 28, 1995 ("*NPRM*"). In the *NPRM*, the FCC has proposed Amendment of Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5 - 29.5 GHz frequency band and to Reallocate the 29.5 - 30.0 GHz Frequency Band. Portions of the millimeter wave frequency bands 27.5 - 28.35 and 29.1 - 29.25 have been tentatively designated for commercial terrestrial use --- whose collective uses the Commission has denominated "Local Multipoint Distribution Service" or LMDS. As discussed below, GEC proposes that the entire 1 GHz be allocated to one licensee per BTA.

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## **I. Introduction**

GHz Equipment Company, Inc. is a millimeter wave equipment manufacturer that has developed equipment for various bands including 28, and 40.5 to 42.5 GHz bands for video distribution. GEC is prepared to comment, given empirical experience in its technology and from its founders' considerable experience in the wireless cable TV industry.

## **II. Comments**

- Concerning Paragraphs 2, 31: The FCC has expressed a desire to provide spectrum for "multiple providers" in a market. GEC in its previous comments, had asserted and herein reaffirms its position that the wireless provider must be given unencumbered spectrum equal to a CATV delivery system in order to be a viable and long term competitor to CATV. If the wireless cable provider is allocated less spectrum than the local cable operator can deliver (the effective bandwidth of coax being approximately 1 GHz) then the wireless operator will again be permanently relegated to the position of secondary or inferior service provider. All advances in spectrum efficiency, such as compression, that are made available to wireless will also be available to CATV. Thus, the FCC cannot "greatly enhance" customer choice except by approximating bandwidth parity between competitors in the marketplace.
- Concerning Paragraph 8: The FCC refers to the October 1992 freeze on 28 GHz applications. GEC believes that there are a several applications that are significantly different from the majority of the over 900 waver request applications that should be granted including the University of Texas - Pan American and the City of Gustine, California

- Concerning Paragraphs 27, 29, 30: The FCC describes the CellularVision approach to video and telephony distribution. GEC has developed its own distribution system and spectrum utilization scheme which some observers believe to be superior in theory and in practice to the CellularVision approach. It is imperative that the FCC remain flexible on this score and not define the CellularVision system as a formal "industry standard."
  
- Concerning Paragraph 36: GEC believes that Multipoint Video Distribution Service ("MVDS") is "ripe for deployment" The spectrum, 2 GHz between 40.5 and 42.5 GHz, can accommodate two providers per market with the spectrum needed for reasonably priced transmitters and inexpensive analog customer premise equipment ("CPE"). GEC can produce inexpensive analog equipment at this frequency which is a prerequisite for a viable wireless cable business plan. Digital delivery systems are being tested by GEC and can be accommodated in this spectrum but will cost significantly more with today's pricing. GEC disagrees with Pacific Telesis that moving LMDS to 40 GHz would delay LMDS by 12-18 months at a critical time in the deployment of wireless cable technology due to technical reasons. If there are delays in implementation of MVDS they will be primarily regulatory.
  
- Concerning Paragraph 43: GEC agrees that sharing is not feasible at this time.
  
- Concerning Paragraph 45: The FCC suggests that its proposal allows LMDS and satellite industries to implement services in the "near term". GEC believes implementation must be immediate. Regulatory delays have allowed and will continue to allow the fiber and hard wire delivery systems time to gain insurmountable advantage in the marketplace.

- Concerning Paragraphs 46 and 63: The Negotiated Rulemaking Committee was successful in facilitating an agreement between LMDS and NGSO/FSS systems in the 29.1 GHz band. However, that agreement was based on LMDS not utilizing the spectrum for return path transmissions. The current proposal encourages terrestrial users to utilize 150 MHz at 29.1 GHz, ideally isolated by spectrum, for their return path. GEC believes that customer premises equipment can be designed that could dynamically adjust the output power of the CPE based on down-stream reception power levels. In the event that there is a decrease in received signal strength due to rain, the CPE could increase its output power level to compensate. Satellite interests are concerned that too much power being radiated continuously by all CPE to provide for rain margin, could render an accumulated unacceptable interference level. Their concerns should be allayed by the fact that relatively few return paths would be operating at increased power levels and their corresponding paths would be experiencing a higher path loss at the time of increased power. GEC believes that the issues can be resolved by the designation of co-primary status and there is no need for all of the details to be agreed upon prior to the rulemaking conclusion.


GEC agrees with the FCC that splitting the LMDS band would significantly increase costs for an analog operation.

- Concerning Paragraph 51: GEC concurs that the FCC should not specify any channelization plan.
- Concerning Paragraph 53: GEC concurs that an operator should be entitled to lease spectrum as the operator sees fit in order to fully accommodate alternate uses of the spectrum.

- Concerning Paragraph 70: GEC concurs that CellularVision should be entitled to expand its pioneer's preference to include the entire BTA under the conditions of this paragraph.
- Concerning Paragraph 79: For reasons stated previously GEC believes that all schemes that divide the terrestrially allocated spectrum between more than one user will seriously compromise the expressed intent of the Commission to provide for an alternative to CATV or hard wired telephone service providers.
- Concerning Paragraph 110: GEC believes that it is incumbent upon the FCC to make rules that preempt state regulations. First, for national consistency, all operators should be under the same rules. Secondly, because some BTAs cross state lines, certain operators may be forced into the a complicated position of making different business decisions; such as to rate structure, programming selection, or even equipment deployment, for different portions of its propagation pattern. Marketing strategies could conceivably be different for portions of one's market complicating advertising and confusing customers.
- Concerning Paragraph 119: It is well established that vertical polarization is more effective in rain conditions than horizontal. Thus the FCC should not require operators to decide which of them must accept the less effective polarization. GEC deployment strategy does not require cross polarization between cells. Directional receive antennae provide adequate isolation for multiple transmitter sites. Therefore, the areas where adjacent BTA's share a common border will not require coordination. The FCC could require a mutual agreement between adjacent operators, but should not require cross polarization.

- Concerning Paragraph 124: From the beginning, the FCC has proposed a service that would allow for inexpensive CPE. Any requirements for spectral efficiency would compromise that original thinking.

Respectfully submitted by,  
GHz Equipment Company, Inc.



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